



UNITED STATES PATENT AND TRADEMARK OFFICE

10/20
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,980	07/09/2003	Tsuyoshi Maeda	115907	8206
25944	7590	09/22/2004		EXAMINER
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			DUDEK, JAMES A	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

2/2

Office Action Summary	Application No.	Applicant(s)	
	10/614,980	MAEDA, TSUYOSHI	
	Examiner	Art Unit	
	James A. Dudek	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-9 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-9 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____

- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over US RE38,305 ("305") in view of US Patent 6359670 ("670").

305 teaches a liquid crystal display device, comprising: a liquid crystal display panel that includes: an upper substrate [see column 2, lines 20-25] and a lower substrate disposed so as to oppose each other [see column 2, lines 20-25]; a liquid crystal layer sandwiched between the two substrates [see column 2, lines 20-25]; and an upper polarizer and a lower polarizer respectively disposed above and below the liquid crystal layer [9,10]; and an illumination device disposed close to a rear surface of the liquid crystal display panel [1], the illumination device including a prism sheet which has a prism surface having a plurality of ribs [7], each having an approximately triangular cross-section, formed thereon close to the liquid crystal display panel [see figure 6], and which is arranged such that the prism surface faces in the opposite direction to the liquid crystal display panel [see figure 6], and the lower polarizer having a reflective polarizer deposited in that order on an outer surface of the lower polarizer [40].

305 lacks a light diffusing layer and a reflective polarizer deposited in that order on an outer surface of the lower polarizer. However, 670 teaches a diffusing layer between a polarizer and reflecting polarizer because depending on its construction, the reflective polarizer sometimes has a reflecting surface on the side of the display cell 1, which may be disturbing during operation in the reflection mode. To preclude this, the possibility of providing a diffusor layer 27 in which the polarization is preserved is indicated in FIG. 1 by means of dashed lines. Diffuse light can be obtained by means of an additional structured layer or by structuring the surface of the cholesteric layer 12. In that case, the diffusor layer or the cholesteric mirror cannot be secured directly to the polarizer 7, so that the scattering effect is partly annihilated again. For this reason, the diffusor layer 27 is preferably provided as a (laminated) layer between the reflective polarizer 9 and the polarizer 7. Said diffusor layer 27 is composed, for example, of a transparent film having scattering particles. The polarization is preserved by keeping the number of scattering particles down. In another embodiment, the diffusor layer is situated between the cholesteric mirror 12 and the $1/4\lambda$ -plate 13 (or the birefringent layer 16). Accordingly it is obvious to one of ordinary skill at the time of invention to combine 305 and 760.

305 teaches the liquid crystal display device according to claim 1, each of the ribs of the prism sheet having an apex in a range from 63 degrees to 68 degrees [see column 21, line 45].

305 teaches the liquid crystal display device according to claim 1, the liquid crystal layer including TN (twisted nematic) liquid crystal, and the liquid crystal display panel having a clear viewing direction in a direction of about six o'clock [see column 2].

305 teaches the liquid crystal display device according to claim 1, the ribs of the prism sheet extending in a direction substantially orthogonal to an incident direction of external light in use.

305 teaches the liquid crystal display device according to claim 1, the illumination device including a light source and a light-guiding plate, and the light source being disposed on an end

Art Unit: 2871

surface of the light-guiding plate, the end surface extending orthogonal to the width direction of the ribs of the prism sheet [see 34].

305 teaches the liquid crystal display device according to claim 1, the transmissive polarization axes of the lower polarizer and the reflective polarizer being arranged so as to be substantially parallel to each other [see figure 7].

305 teaches the liquid crystal display device according to claim 6, the transmissive polarization axes of the lower polarizer and the reflective polarizer being arranged so as to form an angle in a range from -30 degrees to 30 degrees [see figure 7 and corresponding specification].

305 in view of 760 teaches the liquid crystal display device according to claim 1, but lacks the light diffusing layer having a haze value in a range from 60% to 85%. However, 760 states that scattering should be kept down and this would correspond to a haze between 60-80 percent. Accordingly it is obvious to one of ordinary skill at the time of invention to combine 305 and 760 in order to properly apply keep polarization.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Dudek whose telephone number is 571-272-2290. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



James A. Dudek

Primary Examiner

Art Unit 2871